

Cretaceous-Paleogene Santa Elena Block, Assessment Unit 60830201
Assessment Results Summary

[MMBO, million barrels of oil. BCFG, billion cubic feet of gas. MMBNGL, million barrels of natural gas liquids. MFS, minimum field size assessed (MMBO or BCFG). Prob., probability (including both geologic and accessibility probabilities) of at least one field equal to or greater than the MFS. Results shown are fully risked estimates. For gas fields, all liquids are included under the NGL (natural gas liquids) category. F95 represents a 95 percent chance of at least the amount tabulated. Other fractiles are defined similarly. Fractiles are additive under the assumption of perfect positive correlation. Shading indicates not applicable]

Field Type	MFS	Prob. (0-1)	Undiscovered Resources												Largest Undiscovered Field (MMBO or BCFG)			
			Oil (MMBO)				Gas (BCFG)				NGL (MMBNGL)				F95	F50	F5	Mean
Oil Fields	1	1.00	43	178	429	200	26	107	280	124	1	6	17	7	12	45	167	60
Gas Fields	6						22	75	257	99	1	3	12	4	12	40	180	60
Total		1.00	43	178	429	200	47	183	537	224	2	10	29	12				

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Oil in Oil Fields

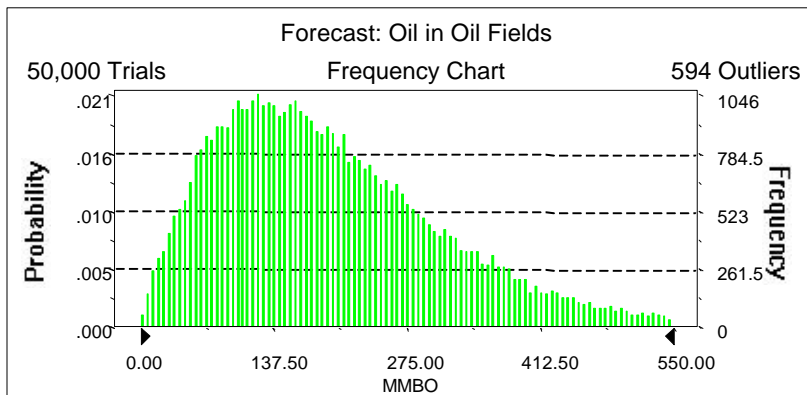
Summary:

Display range is from 0.00 to 550.00 MMBO

Entire range is from 1.38 to 1,172.72 MMBO

After 50,000 trials, the standard error of the mean is 0.54

Statistics:	Value
Trials	50000
Mean	199.59
Median	178.05
Mode	---
Standard Deviation	121.18
Variance	14,683.40
Skewness	1.01
Kurtosis	4.36
Coefficient of Variability	0.61
Range Minimum	1.38
Range Maximum	1,172.72
Range Width	1,171.34
Mean Standard Error	0.54



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	1.38
95%	43.35
90%	63.58
85%	79.61
80%	94.62
75%	108.67
70%	122.51
65%	135.98
60%	150.01
55%	163.82
50%	178.05
45%	193.59
40%	209.56
35%	227.02
30%	246.03
25%	267.45
20%	292.39
15%	323.54
10%	364.65
5%	429.11
0%	1,172.72

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Gas in Oil Fields

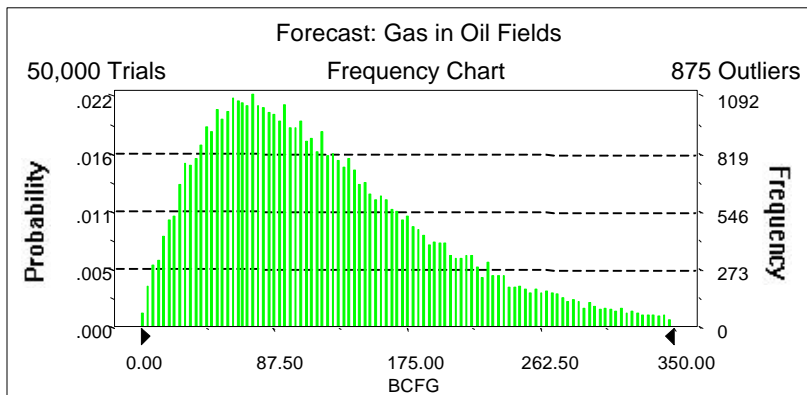
Summary:

Display range is from 0.00 to 350.00 BCFG

Entire range is from 0.82 to 730.85 BCFG

After 50,000 trials, the standard error of the mean is 0.36

Statistics:	Value
Trials	50000
Mean	124.12
Median	107.40
Mode	---
Standard Deviation	81.49
Variance	6,640.07
Skewness	1.29
Kurtosis	5.53
Coefficient of Variability	0.66
Range Minimum	0.82
Range Maximum	730.85
Range Width	730.04
Mean Standard Error	0.36



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	0.82
95%	25.53
90%	37.05
85%	46.96
80%	55.86
75%	64.19
70%	72.50
65%	80.72
60%	89.34
55%	98.07
50%	107.40
45%	117.16
40%	127.53
35%	138.66
30%	151.11
25%	165.57
20%	182.42
15%	203.97
10%	232.51
5%	280.25
0%	730.85

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: NGL in Oil Fields

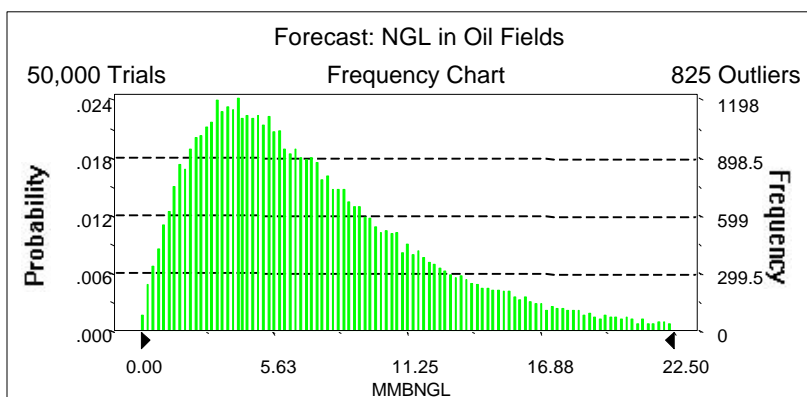
Summary:

Display range is from 0.00 to 22.50 MMBNGL

Entire range is from 0.04 to 51.54 MMBNGL

After 50,000 trials, the standard error of the mean is 0.02

Statistics:	Value
Trials	50000
Mean	7.44
Median	6.25
Mode	---
Standard Deviation	5.21
Variance	27.15
Skewness	1.52
Kurtosis	6.75
Coefficient of Variability	0.70
Range Minimum	0.04
Range Maximum	51.54
Range Width	51.50
Mean Standard Error	0.02



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.04
95%	1.43
90%	2.10
85%	2.67
80%	3.19
75%	3.68
70%	4.16
65%	4.66
60%	5.17
55%	5.69
50%	6.25
45%	6.85
40%	7.49
35%	8.20
30%	8.99
25%	9.90
20%	10.99
15%	12.39
10%	14.33
5%	17.46
0%	51.54

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Largest Oil Field

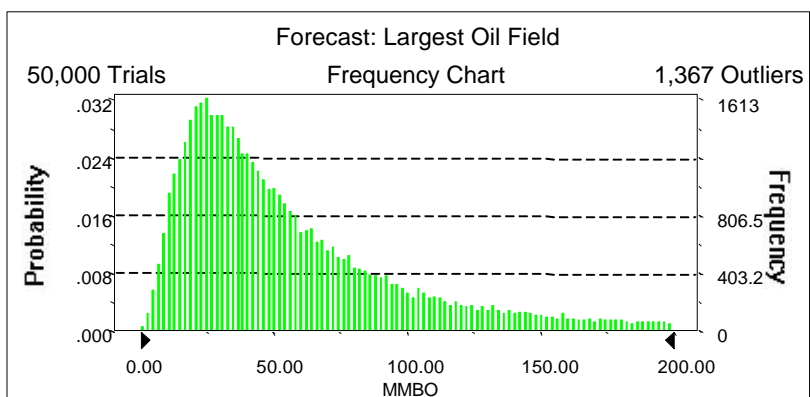
Summary:

Display range is from 0.00 to 200.00 MMBO

Entire range is from 1.32 to 299.94 MMBO

After 50,000 trials, the standard error of the mean is 0.22

Statistics:	Value
Trials	50000
Mean	60.18
Median	44.60
Mode	---
Standard Deviation	49.89
Variance	2,489.24
Skewness	1.84
Kurtosis	6.82
Coefficient of Variability	0.83
Range Minimum	1.32
Range Maximum	299.94
Range Width	298.62
Mean Standard Error	0.22



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	1.32
95%	11.93
90%	16.24
85%	19.88
80%	23.08
75%	26.20
70%	29.53
65%	32.92
60%	36.45
55%	40.41
50%	44.60
45%	49.38
40%	54.58
35%	60.62
30%	68.01
25%	76.90
20%	88.09
15%	103.59
10%	126.33
5%	167.10
0%	299.94

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Gas in Gas Fields

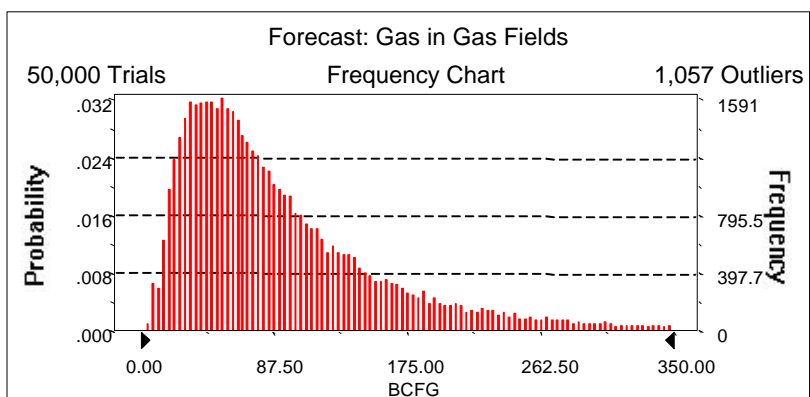
Summary:

Display range is from 0.00 to 350.00 BCFG

Entire range is from 6.29 to 1,036.97 BCFG

After 50,000 trials, the standard error of the mean is 0.37

Statistics:	Value
Trials	50000
Mean	99.41
Median	75.48
Mode	---
Standard Deviation	83.84
Variance	7,029.65
Skewness	2.54
Kurtosis	12.95
Coefficient of Variability	0.84
Range Minimum	6.29
Range Maximum	1,036.97
Range Width	1,030.68
Mean Standard Error	0.37



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	6.29
95%	21.81
90%	28.59
85%	34.37
80%	39.99
75%	45.55
70%	51.25
65%	56.75
60%	62.54
55%	68.69
50%	75.48
45%	82.97
40%	91.22
35%	100.41
30%	111.38
25%	124.75
20%	140.92
15%	163.17
10%	195.96
5%	257.16
0%	1,036.97

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: NGL in Gas Fields

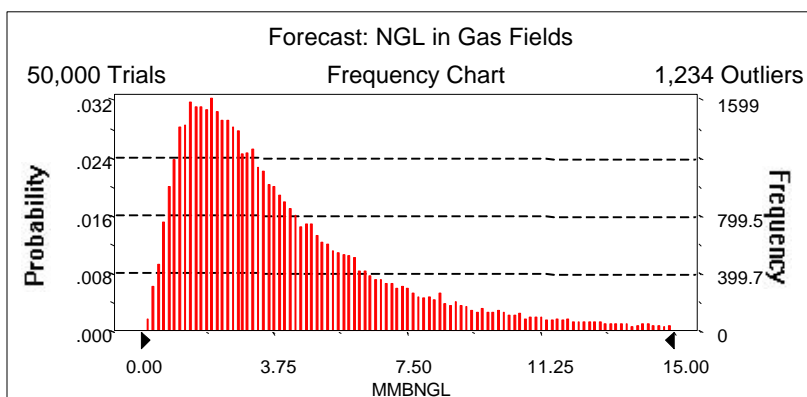
Summary:

Display range is from 0.00 to 15.00 MMBNGL

Entire range is from 0.17 to 64.36 MMBNGL

After 50,000 trials, the standard error of the mean is 0.02

Statistics:	Value
Trials	50000
Mean	4.38
Median	3.26
Mode	---
Standard Deviation	3.90
Variance	15.19
Skewness	2.81
Kurtosis	16.15
Coefficient of Variability	0.89
Range Minimum	0.17
Range Maximum	64.36
Range Width	64.19
Mean Standard Error	0.02



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.17
95%	0.89
90%	1.18
85%	1.43
80%	1.68
75%	1.92
70%	2.16
65%	2.42
60%	2.68
55%	2.96
50%	3.26
45%	3.59
40%	3.96
35%	4.40
30%	4.89
25%	5.50
20%	6.23
15%	7.27
10%	8.78
5%	11.65
0%	64.36

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Largest Gas Field

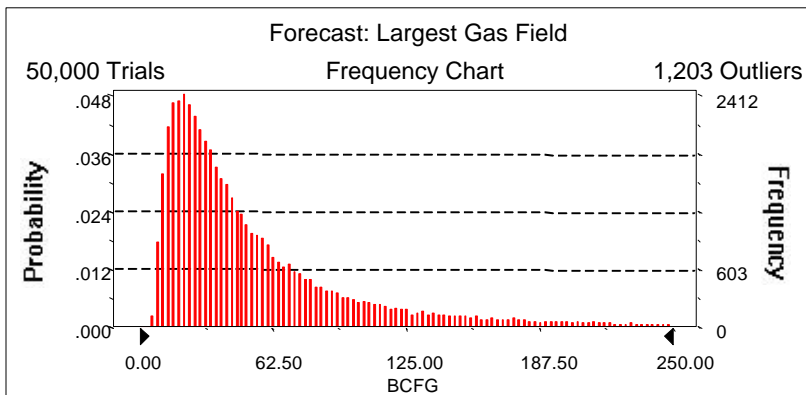
Summary:

Display range is from 0.00 to 250.00 BCFG

Entire range is from 6.29 to 599.55 BCFG

After 50,000 trials, the standard error of the mean is 0.29

Statistics:	Value
Trials	50000
Mean	60.19
Median	39.50
Mode	---
Standard Deviation	64.49
Variance	4,158.50
Skewness	3.32
Kurtosis	18.28
Coefficient of Variability	1.07
Range Minimum	6.29
Range Maximum	599.55
Range Width	593.26
Mean Standard Error	0.29



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	6.29
95%	12.36
90%	15.34
85%	18.01
80%	20.71
75%	23.29
70%	26.05
65%	28.99
60%	32.16
55%	35.65
50%	39.50
45%	43.84
40%	48.92
35%	54.87
30%	61.57
25%	70.66
20%	82.00
15%	98.84
10%	125.38
5%	180.00
0%	599.55

End of Forecast

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

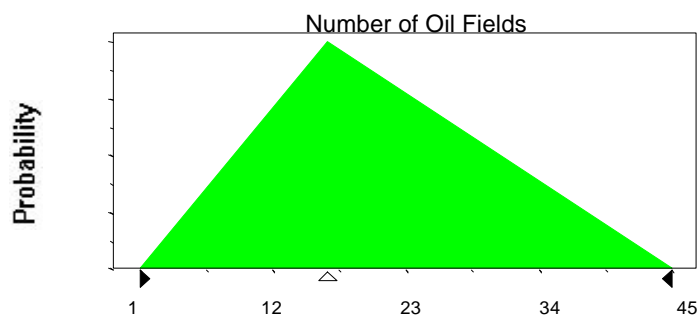
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	1
Likeliest	17
Maximum	45

Selected range is from 1 to 45
Mean value in simulation was 21



Assumption: Sizes of Oil Fields

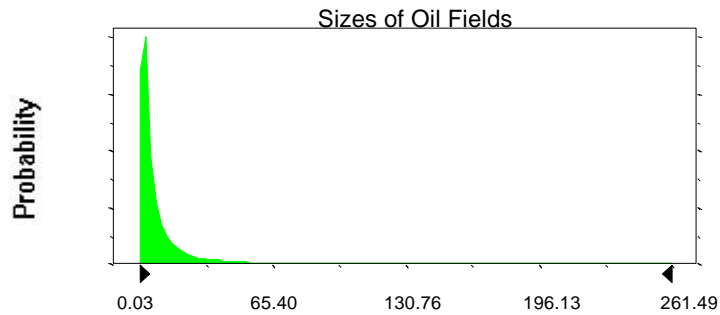
Lognormal distribution with parameters:

		Shifted parameters
Mean	9.09	10.09
Standard Deviation	26.02	26.02

Selected range is from 0.00 to 299.00	1.00 to 300.00
Mean value in simulation was 8.62	9.62

60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Assumption: Sizes of Oil Fields (cont'd)



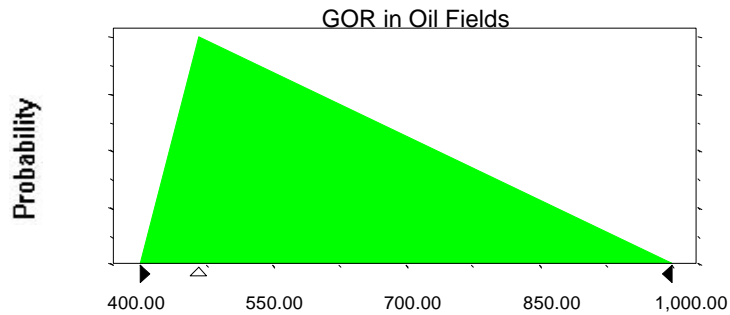
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	400.00
Likeliest	466.67
Maximum	1,000.00

Selected range is from 400.00 to 1,000.00

Mean value in simulation was 621.58



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

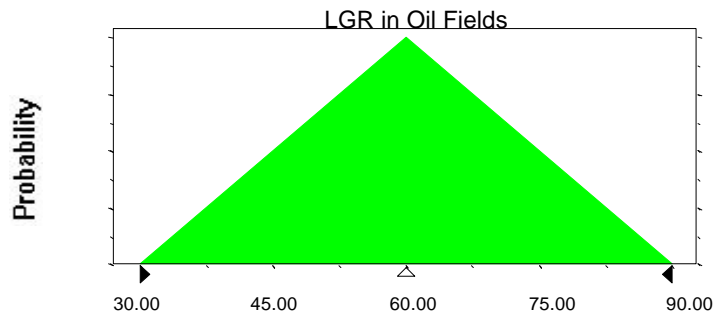
Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	30.00
Likeliest	60.00
Maximum	90.00

Selected range is from 30.00 to 90.00

Mean value in simulation was 59.97



Assumption: Number of Gas Fields

Triangular distribution with parameters:

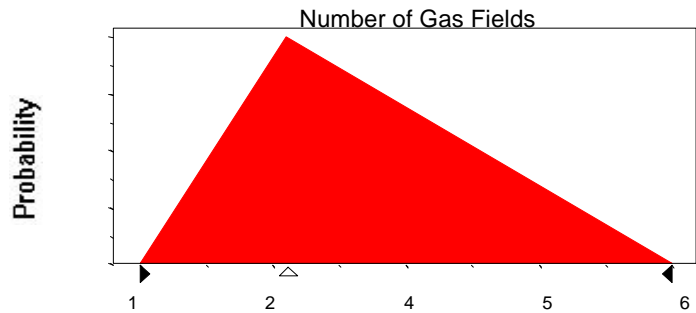
Minimum	1
Likeliest	2
Maximum	6

Selected range is from 1 to 6

Mean value in simulation was 3

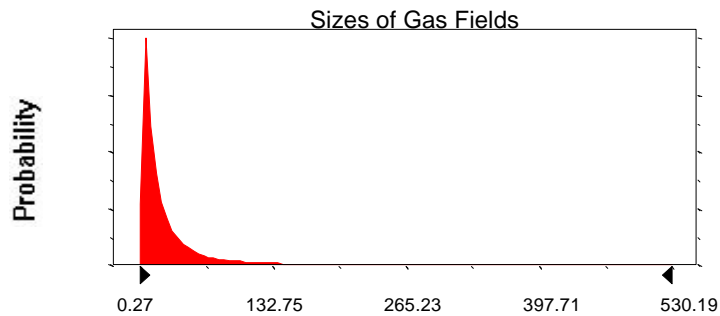
60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	26.63	32.63
Standard Deviation	52.78	52.78
Selected range is from 0.00 to 594.00	6.00 to 600.00	
Mean value in simulation was 25.77	31.77	



60830201
Cretaceous-Paleogene Santa Elena Block
Monte Carlo Results

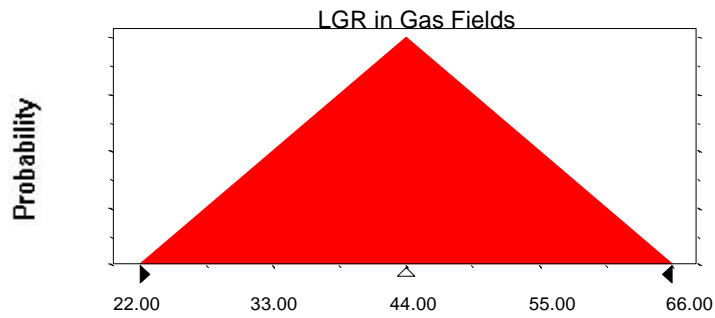
Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	22.00
Likeliest	44.00
Maximum	66.00

Selected range is from 22.00 to 66.00

Mean value in simulation was 44.02



End of Assumptions

Simulation started on 1/4/00 at 15:16:49

Simulation stopped on 1/4/00 at 15:36:25